Hurricane Sally

The devastating effects of Hurricane Sally are still felt in Baldwin County, Alabama, as the signs of the hurricane's impact linger around the city including significant damage to the foundations of many homes.

This case study features a private residence constructed on a bluff that overlooks Perdido Bay. A seawall was built around the edge of the property to retain soil for the residence backyard. During the storm, the remaining wall caved in, and the soil from the backyard washed into the bay. This exposed the foundation under the home. The soil beneath half of the home's rear foundation was lost, leaving a barge as the only way to access the house.

The situation required a procedure that would stabilize the foundation without the need for heavy equipment or hammering. This is because the rear foundation of the home had been primarily undermined and was very close to failing. There was an urgent need to carry out a quick and safe foundation repair without disturbing the soil still unscathed around the foundation.

Deciding on the procedure to adopt in tackling the problem was pretty straightforward, considering the state of the property at that particular time. The apparent solution was underpinning the rear of the home with round shaft Helical piles. Underpinning helps to strengthen a building foundation, and there are several methods of carrying it out.

Concrete underpinning is one of the oldest and most traditional procedures

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Hubbell Power Systems, Inc. is the world's leading helical pile/anchor manufacturer. The CHANCE® brand offers a technically advanced, cost effective solution for the Civil Construction and Electric Utility and Telecommunications markets.

of reinforcement. Nonetheless, it has some drawbacks, which include;

- It can be a prolonged process.
- It involves excavation that may end up destroying a part of your home.
- It is labor-intensive and could increase costs for larger jobs.
- The deeper soil is not always firmer.

Round shaft helical piles were selected instead because they could be installed with a mini excavator with minimal impact to the worksite. A mini excavator was brought to the site on a small barge, and the piles were then screwed in around the foundation with minimal disturbance to the soil.

A 6" diameter sleeve was placed around each pile that extended from the bottom of the foundation to 3' below the soil level. The sleeve was reinforced with a rebar cage and filled with concrete. In total, 15 helical piles were installed to a depth of 25 feet and fastened to the foundation with 40-kip underpinning brackets.

KEY BENEFITS OF HELICAL PILES

- No vibrations: Since only a mini excavator was used to drive the piles straight into the ground, the noise impact was minimal. There were no vibrations whatsoever which were quite significant considering the state of the structure.
- Small equipment: The mini excavator is a small piece of machinery; the challenge of construction equipment limiting workspace was nonexistent.
- Quick installation: The process was fast, considering the building's foundation was in a precarious state, and time was of the essence.

CONCLUSION

Helical piles have been used in several projects worldwide because of their efficiency and relatively straightforward procedures. With helical piles, complex buildings with delicate foundations can be constructed in places that typically would not support a structure otherwise.

If you are looking for an efficient and fast way to secure and repair your foundation, a helical pile system remains your best bet.

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